These gardens furnish staples for local consumption and more cash crops for the Marsa Matruh market. Matruh is dependent upon these vegetable goods from al-Qasr, to the extent that the Governor has forbidden the Bedouins to truck their goods to the higher priced market in Alexandria.

The success of arboriculture in al-Qasr has been the result of a well-organized reclamation program in this area by the government. The relatively good supply of fresh water and the proximity of a large market town has made al-Qasr an atypical case in the government's attempt to transform the desert pastoral economy. Since 1960, the government's program has met with a great deal of success. Such results have, of course, induced the Bedouins of al-Qasr to accept change, and have further enhanced the future of the program. The figures below show, as of 1964, the plant distribution of orchards in the 'izba of al-Qasr, and indicate the measure of success attained by the governmental reclamation program.

The environmental conditions of al-Qasr are particularly well-suited for the olive tree: the olive has been the basis of the economic transformation of al-Qasr. The Bedouins tend to play down the government's role in developing olive arboriculture in the al-Qasr area. But before 1960, only the very wealthy men could afford to deal in the olive market, since it involves a great initial financial risk. Hence, prior to the entry of the government's program, there were 2,743 olive trees

1: Obermeyer E-5 (1964-1965) 1969 MT9 Libyan Bedouin MT9
'Aishaibat

TABLE 1

ARBORICULTURE IN AL-QASR, 1964

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Plant	Acres	Plants Distributed	Successful Plants
Olive	947	40,399	32,488 (80%)
Almond	57	2,570	1,752 (67%)
Fig	66	10,537	(experimental stage)
Grape	.5	512	512 (100%)
Peach	2.5	804	200 (20%)

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[556]

in al-Qasr, and these were distributed among only 27 men. Most of these men also owned large numbers of sheep.

In 1960, the government began planting olive trees on the registered land of individuals living in the 'izba sector. This plan also involved instructing the Bedouins in the care of the tree: an individual who had traditionally depended on the rains now had to learn irrigation farming. This aspect of the program, learning modern "water discipline," was a source of conflict for the Bedouin with his pastoralist outlook on life. The olive tree must be watered twice weekly. The Bedouins say that this made them feel like "peasants." The Bedouins were also apprehensive over the fact that the olive tree did not bear its first fruit, i.e., the first cash

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[749] crop, until five to seven years after planting. To alleviate the difficulties of this period of apprehension, which the Governor of the desert province refers to as "the dangerous period," the United Nations F.A.O. aid program was designed and put into operation in al-Qasr.

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435 A Bedouin may purchase an olive seedling from the government for the price of two piasters (about six cents). This same seedling costs the government 26 piasters. Once through "the dangerous period," a Bedouin can expect a yield of 120 to 150 kilos of olives from one tree. Olives sell for about 15 piasters per kilo. Or, at a cost of 5 piasters per kilo, the olives can be converted into oil. One ton of olives will render about 23 per cent oil. Olive oil is now considered a luxury item in Egypt, and the market price is very high. But only the Bedouin with a large harvest of olives finds it profitable to sell his product on the oil market. These conditions have made many Bedouins willing to convert from horticulture and sedentary pastoralism to arboriculture.

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177 Between 1960 and 1964, the government reclamation program has planted a total of 9,514 olive trees on land registered to 124 individuals. The average distribution of trees, about seventy-six per man, is indicative of one of the problems related to change in al-Qasr and about which we have spoken earlier. Most of the trees have gone to men who, before

654 1960, were olive tree owners. One individual, who owned 400
245 trees before the reclamation program, now owns 1,400 trees.
177 His increase has not all been at government expense, but a large share of it has been. Of the 9,514 trees planted by the government, 4,666 of them have been planted in the barley and wadi area to the south; 4,848 in the garden area on the coast. In the southern sector, a Bedouin who owns at
[312] least ten acres of land may have the government drill a well and erect a windmill pump on his property. For this, he pays
[452] 350 Egyptian pounds (approximately $1,000.00) over a thirty-year period. The Bedouin is willing to undertake this contract, and also to take land out of barley production, because he sees the future security of the olive market. Because of this, also, he is willing to agree on land boundaries and to register his land with the government.

657 Economic transition would not be possible, nor could the Bedouins afford to hazard it, were it not for government welfare payments in the form of staple products. These rations stabilize the mixed economy of the al-Qasr while promoting a shift to a fuller dependence on agriculture. Of the thirteen
657 cooperative societies in the Matruh area, al-Qasr is the
474 largest and has been designated as a pilot project for the whole Western Desert. Al-Qasr garners the largest share of government aid, and, consequently, is heavily dependent upon it. The table below shows the amount of aid given monthly to

1: Obermeyer E-5 (1964-1965) 1969 MT9 Libyan Bedouin MT9
'Aishaibat

TABLE 2

AID PER MONTH TO THIRTEEN COOPERATIVE SOCIETIES OF MATRUH AREA, 1963

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	No. of Families	Beef	Fish	Oil	Cheese	Tea	Powdered Milk
al-Qasr Aid:	308 (1344)*	1008	604	604	1209	201	1209
Total Aid:	627 (3134)*	2350	1410	1410	2826	470	2820

*Number of Persons

al-Qasr during the year 1963. This amount is compared with the total amount of aid given to all thirteen cooperatives in the area.

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During this period, 1960 to 1964, the government has succeeded in stabilizing the pastoral sector of the economy. The Bedouins are given barley and cottonseed-oil cakes as fodder for their animals. Consequently, they must depend upon their own barley crop only to a minimal degree. There are 144,804 sheep in the Marsa Matruh area, as of 1963. In al-Qasr, 332 men own 9,958 sheep, about 30 sheep per man. One sheep requires a kilogram of barley and six kilograms of cottonseed cake per month. The table below shows the amount of fodder distributed to al-Qasr and the whole Matruh sector, in 1963, through the cooperative societies.

[474]

TABLE 3

FODDER DISTRIBUTED IN MATRUH SECTOR, 1963

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	No. of Sheep	Kg. of Barley	Kg. of Cottonseed Cakes
al-Qasr	9,958	85,392	56,928
Total Distribution	144,804	1,303,236	868,824

the cooperative societies.

243 Barley is the important staple in al-Qasr: it is used for bread and fodder. About one-half or the Bedouins plant barley on a small scale. The wealthy individuals who own large flocks of sheep plant up to 100 acres of barley. Barley is planted in October ana harvested at the end ot April. Two methods of cultivation are used: plowing and seeding takes place either berore the rains, i.e., the 'afiir system, or, after the rains, i.e., the haraati system. After harvesting, [251] the grain is threshed ana stored in two-meter deep pits (matmuura). Grain stored in this fashion can be preserved for three years.

244 The main vegetables raised in al-Qasr are onions, radishes, peppers, and mint. Mint is the only dependable [263] cash crop ot those mentioned. It is used by the Bedouins [272] in tea, ana tea drinking is a ceremony which takes place at all times of the day in the desert.

241 when planted in large quantities. The southern zone of al-Qasr
407 is best suited for these crops, and the tractor is necessary
434 for a successful crop.
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407 Tractors are rented through the cooperative society.
474 Local cooperative officers are responsible for seeing that all
[427] members share in the use of the tractor. But, in fact, officers and their closer relatives monopolize the tractors. The gov-
• [654] ernment has allotted to the al-Qasr cooperative five tractors. They feel that it would jeopardize the whole program of economic reform if they were to dictate the way in which the tractors
407 are to be used. Consequently, the tractor, like the rations
619 of foodstuffs, has become a pawn in tribal power plays. In
474 one case, not in al-Qasr, a tractor-driver who was a member of the 'Ali Abyad tribe insisted that members of the 'Ali Ahmar tribe pay him a 50 piaster "tip" to have their fields plowed. Because of situations such as these, most Bedouins prefer that cooperative membership coincide with local group membership. It is better, they say, if the 'Aishaibat of al-Qasr have their own cooperative because they know how to handle problems among themselves. The government, during this transitional period, seems to agree.

407 One reason that tractors are monopolized by a small group is that there are not enough of the machines to handle the plowing. Of the five tractors in al-Qasr, seldom were more than two working simultaneously. Often, this was a result of

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407 the lack of spare parts. Three of the tractors were Russian-built, and two were Egyptian made. The Bedouins say that the Russian tractors are the better.

407 241 654 [132] In 1964, the Western Desert received its heaviest rainfall since 1947. To take advantage of this, local government officials of the reclamation project requested an additional fifty tractors for plowing on the coastal zone. They received only six additional tractors. In that year, the thirty-nine tractors used in the entire Western Desert were able to plow 15,240 acres of land. During this period of economic change, 731 233 [654] a bad barley crop causes a fodder shortage for the animals, and seldom is the aid program able to compensate for this. [166] Consequently, there is a need to ship sheep to the Nile Valley, or to seek permission to take them to the pastures of Cyrenaica. Both situations create tremendous difficulties for both the Bedouins and the government. A third alternative for the [432] [435] Bedouin is to buy barley on the black-market. In doing this, he must pay six times the normal cost of grain, and risk reprisals.

177 657 Prior to 1960, change in al-Qasr might be characterized as a steady and endogenous process of sedentarization. It had been taking place for about a century and a half. Exogenous change, social and economic, may be identified with the desire of the government to reclaim land in al-Qasr for agricultural use, and to integrate the Bedouin into the national economy.

439 market with more than one-third of its lamb meat. The other two-
[315] thirds of the lamb market was supplied from the Sudan, the Delta, and
[315] from Libya. Oil industry in Libya attracted a large number of the young
[178] tribal members in Libya, who had originally undertaken the main task of
[464] sheep pastoralism. As a result, the population of sheep and goats in Libya dropped sharply. Not only did the Libyan market become unable to supply the Egyptian market, but it was also unable to support itself and was forced to pay high prices for the Western Desert sheep and goats.
[457] The price became even more attractive after the devaluation of the Egyptian pound which gave higher value to the Libyan currency, and hence, the price of sheep. In the last decade, the number of smuggled sheep reached a point where it created a great shortage of lamb meat in Egypt. All government attempts to stop smuggling activities in either direction have failed.

657 All these factors attracted the attention of the government to the area and its people. The need to control the tribal population became evident. But since it is difficult, if not impossible, to control a population which is constantly on the move, the first step the government took to control the tribal population was to settle them in permanent villages. A number of projects are underway. The aims of these
[654] projects are to increase the cultivated land and to improve the pastures
[137] by introducing new and highly nutritive pasture plants in areas where agriculture is not feasible. Attempts have also been made to promote local crafts and industries. The intentional efforts of the government
[178] to settle the tribal population is supplemented by the gradual drift of
[464] many tribesmen, especially the younger generation, to seek part-time or